

## **FIELD OF INVENTION**

This invention relates to on-line shopping, on-line gaming, on line entertainment and e-commerce.

## **BACKGROUND OF THE INVENTION**

On-line shopping business has grown tremendously over the past several years. The famous web sites include Amazon.com, Ebay.com, Yahoo.com, and Expedia.com to name a few. However, all these on-line shopping sites use plain texts or still pictures to classify the goods into many categories. This is far cry from the feeling of shopping in the physical stores where the buyer can see the live images of the goods and interact with the seller directly. Especially with the expansion of goods categories, the traditional on-line shopping is becoming complicated and boring.

On the other hand, on-line gaming technology has also grown tremendously. The players can enjoy the vivid 3-D images, and interact with many other players on line.

The essence of the invention is to create an on-line shopping and entertainment network using web-cameras and on-line-gaming technology, so that on-line shopping will be more personal, visual, casual and entertaining.

## **SUMMARY OF THE INVENTION**

The invention starts out with an on-line gaming platform with beautifully generated sceneries, like a virtual city. The users can maneuver through the streets and go into stores.

Different from traditional on-line games, the stores on the streets are real businesses. The sellers rent or permanently buy out the store places. The sellers are required to equip with web-cameras, and provide a list of items they are selling, so that the buyers can both view the goods live, and do a text-based search to expedite the shopping.

Each store is an individual on-line community. Once a buyer enters a store, he will receive live web-broadcast of the goods. Also, he is automatically added to the community list. Each store has a list of goods for sale, as well as a list of how many people are in the store at the moment. There will be text or audio instant messaging interface for all the community members to communicate. The buyer can type in messages to ask seller to zoom in on a particular item, or negotiate sales price. Live auctions are also feasible through the interactive messaging interface. Once the buyer goes out of the store, he will be automatically removed from the community list of that store.

The stores can also be cinemas, theaters, concert hall or other live broadcast events, where the buyers can purchase tickets and go into the stores to enjoy live events. It should be pointed out that in order to really enjoy live broadcast, broadband communication network is essential. It may take several more years for broadband technology to be widely deployed.

It also needs to point out that when broadband communication technology is realized, the above mentioned web-cameras and live broadcasting can be made more enjoyable by using a set of lens with different focal lengths as shown in Fig.1. In the example of Fig.1, two kinds of lens are used, 1x magnification & 4x magnification. To make 4x magnification lens to cover the same area of 1x lens, Four 4x lens are combined with one 1x lens. With this lens combination, also with some yet-to-be-developed interface software, hardware zooming can be realized. ie. if the user want to zoom in on something, in reality, the images he viewed are changed from 1x lens to 4x lens. In this way, a large amount of users can freely zoom in & zoom out without actually moving the

lens. Of course, to make this zoom effect more efficient, both software zoom & above mentioned hardware zoom should be utilized to achieve seemly smooth zooming.

Last thing to point out is that in order to save the network bandwidth, the users need to down load the 3-D modeling software onto their local PC, so that the virtual city images are rendered locally and only web-camera images are transferred through the Internet.

## **DESCRIPTION OF THE DRAWINGS**

**Fig. 1** is one example of the combinational lens so that when the user switches from one lens to another, zooming effect can be achieved without actually moving the lens. This can be used in broadband live shows, where users can freely pan or zoom in on what they are interested.